O. A. NENNINGER.

DISTILLING DEVICE.

APPLICATION FILED MAY 6, 1908.

952,343.

Patented Mar. 15, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

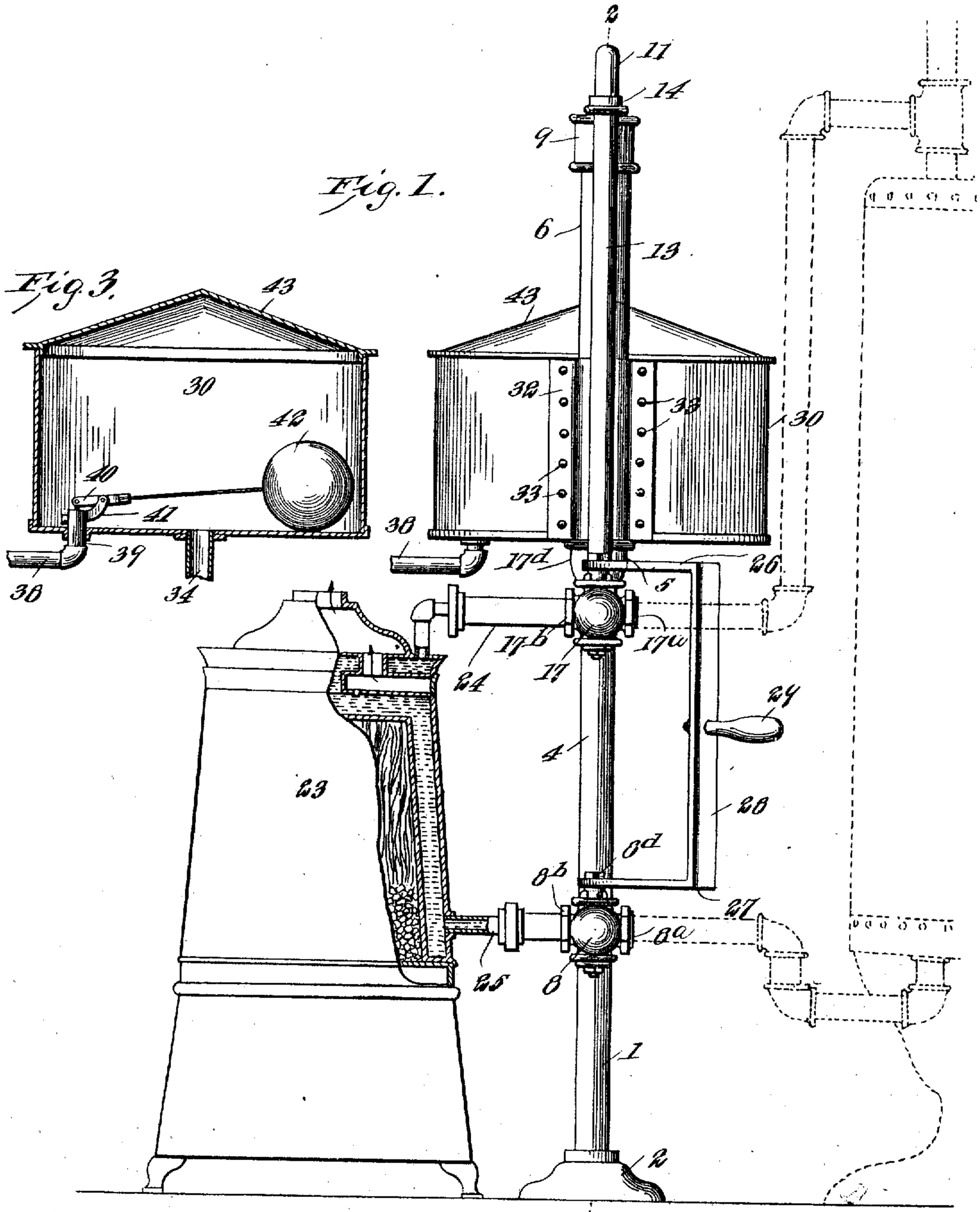

Fig. 3.

WITNESSES

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3 SHEETS—SHEET 2.

Fig. 3.

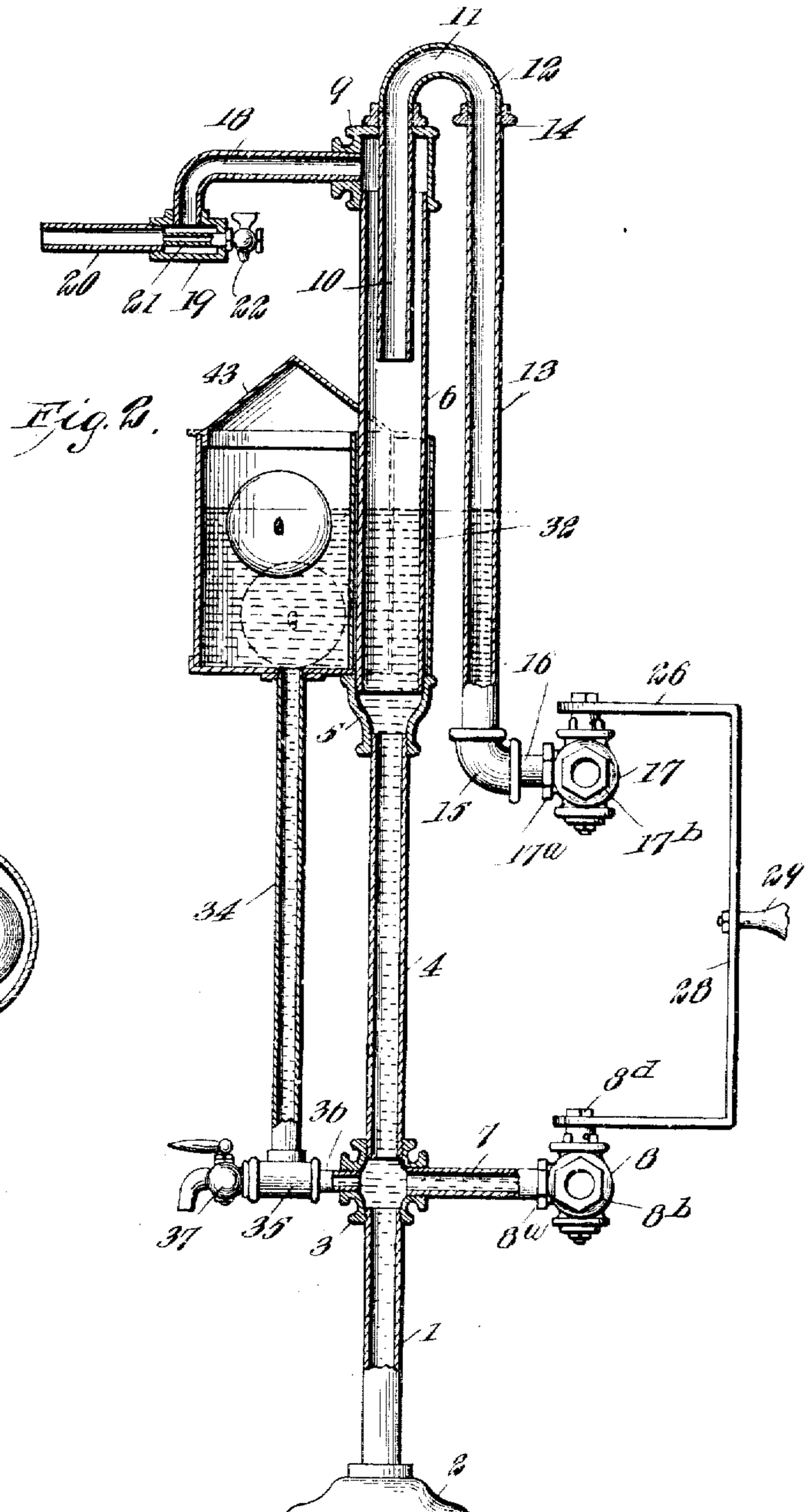
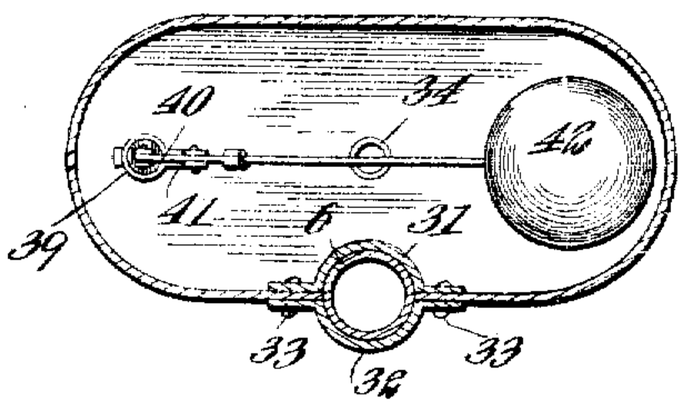


Fig. 4.



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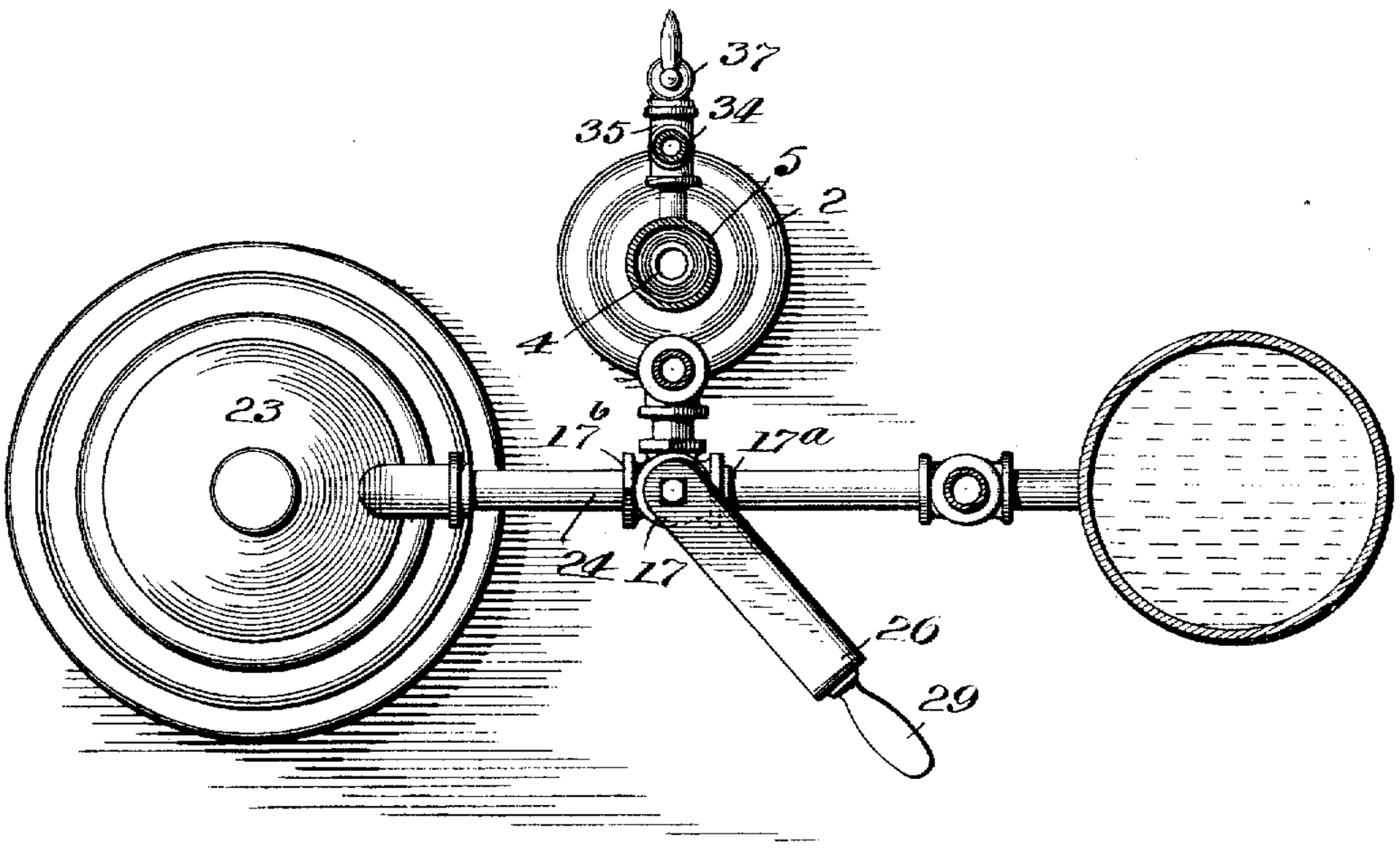
3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

OSCAR A. NENNINGER, OF EL PASO, TEXAS.

DISTILLING DEVICE.

952,343. Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed May 5, 1908. Serial No. 430,905.

To all whom it may concern:

Be it known that I, OSCAR A. NENNINGER, a citizen of the United States, and a resident of El Paso, in the county of El Paso and State of Texas, have invented certain new and useful Improvements in Distilling Devices, of which the following is a specification.

My invention is an improvement in water stills, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a side view of the improvement. Fig. 2 is a central vertical section through the improvement. Fig. 3 is a vertical section through the tank, Fig. 4 is a horizontal section of the same, and Fig. 5 is a transverse section.

The present embodiment of my invention comprises a standard 1, provided with a base 2, and having near its lower end a cross 3, the standard being hollow as shown, and into the upper vertical arm of the cross is threaded a section of pipe 4, the upper end of the section being threaded into the small end of a reducing union 5, a casing 6 being threaded into the large end of the union and extending upwardly therefrom.

A section of pipe 7 of relatively small diameter is threaded into one of the lateral arms of the cross 3, and on the outer end of the pipe 7 is a three-way valve casing 8 for a purpose to be presently described.

Upon the upper end of the casing 6 is threaded a T 9, and through the upper vertical arm of the T extends one arm 10 of a bent pipe 11, the other arm 12 being connected with a vertically arranged pipe 13, by a union 14, and to the lower end of the pipe 13, is connected an elbow 15 connected in turn by a short section of pipe 16 with a three-way valve casing 17. A bent pipe 18 is connected with the lateral arm of the T 9, and to the free end of the pipe 18 is connected a T 19 one of its lateral branches being connected by a pipe 20 with any suitable form of condenser, such for instance as that shown in my Patent No. 867,833 granted to me October 8th, 1907. A section of pipe 21 of relatively small diameter is inserted in the other lateral branch of the T 19, the outer end of the said pipe being provided with a valve 22, whereby to close the same when desired. The section 21 of pipe extends beyond the opening of the pipe 18, as will be evident from an inspection of Fig. 2.

The three-way valve casings 8, and 17 have one branch 8^a, 17^a, connected with the pipe 7 and the pipe 16 respectively, and another branch 8^b, 17^b, of each casing is adapted to be connected with a tank heater 23 of ordinary construction, by means of the pipes, 24 and 25. The third branches 8^c, 17^c, are adapted to be connected with the house boiler not shown. The valve stems 8^d and 17^d, are connected with the arms 26, 27 of a yoke 28 provided with a handle 29, for convenience in manipulating the same, whereby to connect the distilling device with the tank heater, or to connect the house boiler with the tank heater.

A tank 30 is arranged adjacent to the casing 6, the tank having a recess 31, for receiving the casing, and a bearing plate 32 partially encircles the casing, and is riveted to the tank as at 33, whereby to support the same, the lower edge of the tank and the lower edge of the bearing plate resting on the top of the reducing union 5 as shown in Fig. 2. The tank 30 is connected by pipe 34 and a short section of pipe 36 with the other lateral branch of the cross 3, and a faucet 37 is connected with the outer end of the T 35. The tank is also provided with an inlet pipe 38, adapted to be closed by a valve 39, pivoted to one end of an arm 40 journaled on a bracket 41, and provided at its other end with a float 42. The pipe 38 is adapted for connection with a water supply, and the float valve acts to retain the water in the tank at a predetermined level. The tank is closed by a cover 43.

It will be evident from the description, that by manipulating the yoke 28, the tank heater may be connected with the house boiler, (not shown) for the purpose of heating the water in the boiler in the absence of fire in the range, so that the water circulates from the tank heater to the boiler, and back to the tank heater, passing through the pipes 24 and 17^a, to the boiler, and from the boiler through the pipe 25 to the tank heater, it being understood that the valves in the casings 8 and 17 are so turned as to permit this connection. Now if desired to disconnect the tank heater from the house boiler and connect it with the distilling device, the yoke is manipulated to turn the valve in the casings 8 and 17 to disconnect

the pipes 24 and 25 from the pipes leading to the house boiler, and to connect them to the pipes 7 and 16 leading to the distilling device which comprises the pipe 10 and the casing 6.

In the operation of the device, with a moderately strong fire, "it will boil over," and the mixed mass of steam and water will pass through the pipes 13 and 10 in the form of steam and spray, and the steam and water will separate in the casing 6, the steam passing to the pipe 18 and the water to the pipe 4. The water returns from the pipe 4 through the pipe 7, and the valve casing 8 and the pipe 25 to the tank heater. It will be evident that the house boiler may be also connected with the distilling apparatus, since the valves 17 and 8 are three-way valves. The casing 6 and the pipe 10 form practically a separating device for separating the steam from the water in suspense, and for returning the water to the tank heater, while the steam is passed on to the condenser.

The tank 30 is under the ordinary pressure of the street mains and is adapted to supply the tank heater with water, the water passing through pipes 34 and 36 to the pipe 4, where it passes onward through the pipe 7 and the valve casing 8 to the tank heater.

It will be observed that the tank 30 is connected with the tank heater only when the separating or distilling device is connected therewith, and that when the tank heater is connected with the house boiler, the tank 30 is disconnected.

If desired a suitable boiler compound may be placed in the tank 30 for cleaning the tank heater, and the parts connected therewith.

When it is desired to empty the casing and the tank, the valve 37 may be opened.

The water in the apparatus when used for distilling is at about the level of the center of the tank 30, this level, however, being regulated by the float valve, it being evident that when the float is raised above a certain level the water will be shut off until it falls below such level. The tank heater is always full of water since it is below the tank 30. The water stands also in the pipe 6 and in the pipe 13 at the same level that it does in the tank 30.

I claim:

1. A device of the class described comprising a support, a casing on the support, a water tank in contact with the casing, means for retaining the water in the tank at a predetermined level, a plurality of three-way valves, a connection between corresponding branches of the valves and the upper and lower ends of the casing, the other corresponding branches being adapted for connection with a tank heater, and with a house boiler respectively and a yoke having its arms connected with the valves whereby to manipulate them in unison.

2. A device of the class described comprising a casing, a water tank in contact with the casing, a plurality of three-way valves, a connection between the corresponding branches of the valves and the upper and lower ends of the casing, the other corresponding branches being adapted for connection with a tank heater and with a house boiler respectively, and means for operating said valves in unison.

3. A device of the class described comprising a casing, a plurality of three-way valves, a connection between the corresponding branches of the valves and the upper and lower ends of the casing, the other corresponding branches being adapted for connection with a tank heater, and with a house boiler respectively, and means for operating said valves in unison, the said casing being provided with means whereby it may be connected with a condenser.

4. A device of the class described comprising a casing, a plurality of three-way valves, a connection between the corresponding branches of the valves and the upper and lower ends of the casing, the other corresponding branches being adapted for connection with a tank heater, and with a house boiler, respectively, and means for operating said valves in unison.

5. The combination with the casing, adapted for connection with a condenser, of a three-way valve connected with each end thereof, each valve having a branch adapted for connection with a tank heater, and a branch adapted for connection with a house boiler, and means for operating said valves in unison, whereby to connect the tank heater with the casing or with the house boiler.

6. The combination with the casing adapted for connection with a condenser, of a three-way valve connected with each end thereof, each valve having a branch adapted for connection with a tank heater, and a branch adapted for connection with a house boiler, means for operating said valves in unison whereby to connect the tank heater with the casing or with the house boiler.

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Witnesses:
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